BOTANICAL MUSEUM LEAFLETS
HARVARD UNIVERSITY

MBRIDGE, MASSACHUSETTS, MAY 12, 1938 VOL. 6, NO. 1

NOTES ON AMERICAN ORCHIDS

BY

CHARLES SCHWEINFURTH

THE FOLLOWING NOTES on American orchids consist chiefly of nomenclatorial reductions occasioned by a critical study of collections recently received from Costa Rica.

The sequence of genera follows that of Engler and Prantl in "Die natürlichen Pflanzenfamilien".

Ponthieva Türckheimii *Schlechter* in Fedde Repert. 3 (1906) 47, as *Ponthiea Türkheimii.*

Ponthieva graciliscapa Schlechter in Fedde Repert. Beihefte 19 (1923) 166.

It appears that the Costa Rican *Ponthieva graciliscapa* is conspecific with the Guatemalan *P. Türckheimii* as shown by a careful comparison between the types of the two concepts. The type of the latter species is described as rather taller than *P. graciliscapa,* but another Guatemalan collection of *P. Türckheimii* has quite the measurements of *P. graciliscapa.* It is noteworthy that the altitude where each type was collected is nearly the same, and especially that the flowers of the two concepts are practically identical.

One Costa Rican collection of this species (an immature plant) is only about 21 cm. tall with the smallest leaf-blade measuring about 3 cm. long and 1.3 cm. wide.

Liparis tipuloides *(Lindl.) Schlechter* in Fedde Repert. Beihefte 19 (1923) 91.

Microstylis tipuloides Lindley in Ann. & Mag. Nat. Hist. 15 (1845) 256.

Malaxis tipulodea O. Kuntze Rev. Gen. Pl. 2 (1891) 673.

Liparis eustachys Schlechter in Fedde Repert. Beihefte 19 (1923) 91.

I agree with Schlechter that the species described as *Microstylis tipuloides* should be transferred to the genus Liparis, for, although it has an abbreviated column, the anther appears to be opercular and incumbent as in Liparis and not erect as in Malaxis.

Although *Microstylis tipuloides* originated in Colombia (Popayan), it was reported in 1866 from Costa Rica (near San Miguel) by H. G. Reichenbach.

As a result of Ridley's rather misleading description of *Microstylis tipuloides* in his monograph in Journ. Linn. Soc. Bot. 24 (1888) 332, Schlechter erected *Liparis eustachys* declaring that his new species doubtless represented Reichenbach's Costa Rican record of *Microstylis tipuloides.* Schlechter's statement that the leaves of the latter species are shorter and narrower than those of the Costa Rican form is not borne out by an examination of a photograph of typical *Microstylis tipuloides.* In this record the leaves are approximately similar to those depicted in a drawing of the type of *Liparis eustachys* of which the supposedly shorter inflorescence is quite immature toward the apex. The flowers of each species appear to be of nearly the same size and form, with the exception that in *Microstylis tipuloides* the lip is represented as acuminate, whereas in *Liparis eustachys* it is shown as acute.

Pleurothallis obliquipetala *Acuña & Schweinfurth sp. nov.*

Herba minima, caespitosa, muscicola. Radices fibrosae, numerosae. Caules minuti, filiformes, maxima pro parte vaginis scariosis celati. Folia oblanceolata, acuta vel obtusa, inferne sensim angustata. Inflorescentia perbrevis. Flores singuli vel bini. Sepala petalaque membranacea. Sepalum dorsale peranguste lanceolatum, longe acuminatum, trinervium. Sepala lateralia ovato-lanceolata, abrupte longe acuminata, parte inferiore connata. Petala oblique rhombico-lanceolata, acuminata. Labellum lingulatum, basi lobulato-dilatatum, apice late rotundatum; discus medio bicarinatus, parte superiore papillosus.

Plant minute, caespitose, together with mosses forming a dense mat. Roots numerous, fibrous, flexuous, glabrous, as stout as the sheathed stems. Stems up to about 5 mm. long, filiform, monophyllous, mostly concealed by three imbricating loose tubular scarious sheaths. Leaves oblanceolate to obovate, obtuse or acute, gradually narrowed into a slender petiole, up to 11 mm. long and 3.4 mm. wide when expanded, commonly conduplicate and apparently very fleshy in the living state. Inflorescence very short. Flower solitary or two, large for the plant, membranaceous; perianth segments apparently subparallel. Dorsal sepal very narrowly lanceolate, long-acuminate to an obtuse tip, about 5.1 mm. long and 1.6 mm. wide near the concave base, 3-nerved with the nerves carinate dorsally. Lateral sepals ovate-lanceolate, connate for the basal third, rather abruptly long-acuminate, about 5.2 mm. long, 3-nerved with the inner nerves short and indistinct and the two outer nerves prominent and carinate dorsally, each free portion about 2 mm. wide. Petals asymmetrically rhombic-lanceolate with the anterior margin dilated, acuminate, about 2.6 mm. long and 1 mm. wide in the middle, 1-nerved, irregularly

crenulate above the middle on the anterior margin. Lip lingulate, lobulate-dilated on each side near the base, sessile, broadly rounded at the apex, 3-nerved, slightly crenulate above, about 3.5 mm. long, 2 mm. wide near the base, about 1.6 mm. wide near the apex; disc papillose above the middle especially toward the apex, with a pair of low slightly converging keels near the middle. Column about 2 mm. long, uniformly membranaceous-winged above the base; rostellum suborbicular, convex, decurved.

A collection of this species in the herbarium of the New York Botanical Garden *(Shafer 9048)* is apparently in a more advanced condition than the type, for it has generally longer leaves (reaching 23 mm. in length) and very mature perianths on the summit of the ovoid ovaries.

The nearest ally of ***P. obliquipetala*** appears to be ***P. semperflorens*** Lindl. which differs in having elongate peduncles, and about twice smaller flowers with broader dorsal sepal, dissimilar petals and different lip. Vegetatively it suggests ***P. bicristata*** Cogn., ***P. calcarata*** Cogn., ***P. cryptantha*** Cogn. and ***P. mornicola*** Mansf.

Pleurothallis obliquipetala was sent and tentatively described (but not published) by Dr. J. Acuña of Santiago de las Vegas, Cuba.

Cuba: Province of Oriente, Estribo del Este, Pico Turquino. August 1, 1935. *J. Acuña 9540* (Type in Herb. Estación Central Agronomica, Santiago de las Vegas, Cuba; Duplicate type in Herb. Ames No. 46830); Oriente, Gran Piedra. At about 1500 meters altitude. On tree trunk. March 4, 5, 1911. "Flor purpurea". *J. A. Shafer 9048.*

Epidendrum notabile *Schlechter* in Fedde Repert. Beihefte 19 (1923) 121.

In an interesting collection of Costa Rican orchids sent by Manuel Valerio, there is a specimen referable to this species. It apparently differs from the type in several particulars. The inflorescence is terminal only (not lateral and terminal), the sepals are 5-nerved rather than 3-nerved, the petals are acute rather than acuminate and the subquadrate lip (which is scarcely pandurate when expanded) is about 10 mm. long from the auricles of the deeply cordate base and about 12 mm. wide below the middle. The ovary appears to be definitely fusiform.

Costa Rica: La Palma. At 1500 meters altitude. "Flor blanquecino-verdosa". November 1937. *Manuel Valerio 2480.*

Oncidium cabagrae *Schlechter* in Fedde Repert. 9 (1911) 292.

Oncidium Rechingerianum Kränzlin in Engler Pflanzenreich IV. 50, pt. 2 (Heft 80) (1922) 202, fig. 18 C, a-c.

A drawing of the habit with a floral analysis of *Oncidium cabagrae* made under the supervision of Dr. Schlechter shows no appreciable differences from *O. Rechingerianum* as illustrated by a photograph of the type and a floral analysis (l.c.) made by Dr. Kränzlin. Slight differences consist in the somewhat smaller leaves and nodding upper part of the raceme of *O. Rechingerianum.*

A flower from the type of *O. cabagrae* (kindly sent by Dr. R. Mansfeld of Berlin) seems to resemble not only the analysis of typical *O. Rechingerianum,* but also a large series of Costa Rican specimens referred to that species. In this flower the dorsal sepal appears to be somewhat smaller than specified for *O. cabagrae* and to approach in size that of *O. Rechingerianum.* Moreover, the callus at the base of the lip appears to be reduced to an oblong thickening extended into an apical pair of lobules thus differing from the typical form of *O. Rechingerianum.*

Apparently *O. cabagrae* is a rather variable species with the variation shown in the size of the plant, the breadth of the leaves, the strictness of the inflorescence, the size of the floral segments, the lobing of the callus on the lip and the degree of lobing of the column-wings. It appears to be frequent in Costa Rica and occurs in the Province of Chiriqui, Panama.

Oncidium obryzatoides *Kränzlin* in Engler Pflanzenreich IV. 50, pt. 2 (Heft 80) (March 1922) 240.

Oncidium fulgens Schlechter in Fedde Repert. Beihefte 17 (December 1922) 83.

Oncidium varians Schlechter in Fedde Repert. Beihefte 19 (1923) 151.

Oncidium Brenesii Schlechter in Fedde Repert. Beihefte 19 (1923) 257.

A photograph of the type of *Oncidium obryzatoides* in the Ames Herbarium shows that this species differs from the description in having flattened-ovoid rather than oblong pseudobulbs and in having the lateral lobes of the lip triangular-ovate or semioblong and auriculate instead of linear and retuse.

A drawing of *Oncidium fulgens* made under the supervision of Dr. Schlechter together with specimens said to represent the type collection indicate that this concept is scarcely separable from *O. obryzatoides.* From the latter species, *O. fulgens* appears to vary in having somewhat narrower leaves, less prominently produced lateral lobes of the lip, more sharply lobulate callus on the lip and column-wings which are obtuse at the base. However, these tendencies are present in otherwise typical forms of *O. obryzatoides.*

Oncidium varians, of which there is an example of the type number in the Ames Herbarium, differs from typical *O. obryzatoides* in having more elongated pseudobulbs and leaves. The callus on the lip appears to be very similar to that of *O. fulgens*, and the base of the column-wings is either acute or obtuse.

Oncidium Brenesii, judging from analyses made from the type, appears to be only a small, few-flowered form of *O. obryzatoides.* Its pseudobulbs are rounder, and its inflorescence is a simple few-flowered raceme. The parts of the flower, however, do not show any morphological differences from those of *O. obryzatoides.*

It appears to me that *O. angustisepalum* Kränzl. (in Engler Pflanzenreich IV. 50, pt. 2 (Heft 80) (1922) (203) is a closely allied plant and is possibly conspecific, as shown by a floral analysis; but this species was described from an inflorescence only, and the basal portion of the lip appears to be considerably narrower than that of *O. obryzatoides.*

Two other allies of *O. obryzatoides* appear to be *O. sclerophyllum* Kränzl., which has about twice smaller flowers, and *O. tetraskelidion* Kränzl., which is described and drawn as having acute or acutish sepals and petals, and is said to have the lateral lobes of the lip linear.

Oncidium obryzatoides apparently is a polymorphic species both vegetatively and florally. At one extreme are small plants about 10 cm. tall with elliptical leaves and 1- or 2-flowered racemes, while at the other extreme are large luxuriant plants up to 75 cm. tall with oblong-ligulate leaves and spreading many-flowered panicles. Florally the variation extends from spatulate-oblong petals about 1 cm. long and 4 mm. wide to broadly oblong-obovate petals about 1.4 cm. long and 9.5 mm. wide; the lateral lobes of the lip are more or less well-developed; the apical portion of the lip ranges from about 1 cm. to 2 cm. in width; the basal callus of the lip is now distinctly 5- (or more) lobulate with three distinct apical teeth and now obscurely lobulate with only two distinct apical lobes. It is altogether a most variable species in which similar parts may vary in the same flower!

Dichaea Morrisii *Fawcett & Rendle* in Journ. Bot.

48 (1910) 107; Fl. Jam. 1 (1910) 139, t. 30, fig. 31-36.

Dichaea Bradeorum Schlechter in Fedde Repert. Beihefte 19 (1923) 154.

The description of *Dichaea Bradeorum* together with a habit drawing and floral analysis of that concept made at Berlin show that it is referable to *D. Morrisii* of which I have seen the co-type (Hardware Gap, Jamaica, *G. E. Nichols*).

Dichaea Bradeorum, to be sure, is said to possess smooth sepals, whereas those of *D. Morrisii* are minutely but clearly ciliolate under the hand lens. The outline and proportions of the lip appear to be very similar in both concepts. As a matter of fact, the sepals and petals of *D. Morrisii* seem to be rather more acuminate than those illustrated in Fl. Jam. t. 30 and thus to approximate those of *D. Bradeorum*.

In the Costa Rican specimens examined (in all of which the sepals are more or less ciliolate), there appears to be considerable variation in the degree of acumination of the parts of the perianth as well as in the prominence of the lateral lobules or auricles of the lip. The latter vary from elongate falcately triangular-linear lobes to short bluntly triangular projections.

Jamaica: Mt. Moses. At 3500 feet altitude. On trees. Flowering in July. J.P. 2269, *Morris* (Type of *D. Morrisii*): Hardware Gap. July 17, 1903. *G.E. Nichols*.

Santo Domingo: Constanza. At 1200 meters altitude. Epiphyte "im Laubwald". Flowers greenish yellow, lip blue on the margin. May 1910. *Türckheim 3283*: Province of Monte Cristi, Monción, Cordillera Central, at junction of Río Cenobi and Río Cenobicito. At c. 700 meters altitude. At edge of stream. "20-VI-1929." *E. L. Ekman 12928*. (Both collections in advanced flower).

Costa Rica: Carpintera. Blooming in April 1908. *A. & C. Brade 1305* (Type of *D. Bradeorum*): La Palma. "Alt. 1190. 3-XI-1922." *A.M. Brenes (74) 404* [fl. passé]; "Alt. 1250 m. 19-XII-1922." *Brenes 511.* [fl. passé]; "Alt. 1290 m. 8-II-1923." *Brenes 521*: La Palma ed San Ramón. "Epiphyte. . . . bois et arbres des pâturages. Alt. 1150-1250 m. 5-X-1927." *Brenes (63) 1642.* [fl. passé]: Cataratas de San Ramón. "17-20-IV-1935." *M. Quirós (122) 111.* [fl. passé]: San Jerónimo de Moravia. "19-IX-1933. Comprada a un campesino." *Brenes 218:* La Union General. "fl spotted violet." May 1935. *C. H. Lankester s.n.*

Dichaea muricata *(Sw.) Lindley* Gen. & Sp. Orch. Pl. (1833) 209—Fawcett & Rendle Fl. Jam. 1 (1910) 137, t. 30, fig. 22–25.

Cymbidium muricatum Swartz in Nov. Act. Upsal. 6 (1799) 71; Fl. Ind. Occ. (1799) 1454.

Dichaea latifolia Lindley Gen. & Sp. Orch. Pl. (1833) 208.

Dichaea Moritzii Reichenbach filius in Nederl. Kruidk. Arch. 4 (1858) 328.

Dichaea muricata Lindl. *β. latifolia* Lindl. ex Grisebach Fl. Brit. W. Ind. (1864) 624.

Dichaea muricata Lindl. var. *β. Moritzii* Cogniaux in Martius Fl. Bras. 3, pt. 6 (1906) 488.

Dichaea ovatipetala Schlechter in Fedde Repert. Beihefte 19 (1923) 266.

Dichaea similis Schlechter in Fedde Repert. Beihefte 19 (1923) 307.

Dichaea verrucosa Ames & Schweinfurth in Sched. Orch. 8 (1925) 83.

The description of the Jamaican *Cymbidium muricatum* of Swartz and the diagnosis of *Dichaea muricata* by Fawcett and Rendle state that the flowers are glabrous or else make no mention to the contrary. However, in a very large series of specimens which I take to be undoubtedly referable to this species, the sepals are usually more or less verrucose on the dorsal surface but occasionally appear to be smooth. This character, therefore, seems to be variable or evanescent, and not to be of diagnostic weight.

The Costa Rican *Dichaea ovatipetala* differs from typical *D. muricata* in having sparingly subverruculose sepals, somewhat broader petals and a minutely papillose-ciliate margin on the basal portion of the lip. Though I have been unable to examine any Jamaican specimens of *D. muricata*, a flower of that species from Guadeloupe shows both the sparsely verruculose sepals and the minutely ciliate base of the lip. The breadth of the petals appears to be a variable character, but in no flower of *D. muricata* which I have examined could they be called "linear", as described by Kränzlin in his monograph of Dichaea (in Engler Pflanzenreich IV. 50 (Heft 83) (1923) 37).

The Costa Rican *Dichaea similis* is scarcely to be distinguished from *D. ovatipetala* save by its somewhat narrower petals, smooth basal margins of the lip and rather longer and more acuminate lateral lobules or auricles of the lip. However, I have seen one Costa Rican specimen *(Quirós 260 = 240)* in which one petal is much broader than the other, with the papillose-ciliate base of the lip as in *D. ovatipetala*, but having long slender lateral lobes of the lip, as in *D. similis*.

Another Costa Rican species, *Dichaea verrucosa*, has larger flowers than those of *D. ovatipetala* and *D. similis*, but is otherwise precisely similar to a combination of those concepts.

In this connection it seems advisable to correct some statements made in the type description of *Dichaea vaginata* Reichb.f. ex Kränzl. (in Engler Pflanzenreich IV. 50 (Heft 83) (1923) 42) and thus to eliminate this species from the puzzling alliance of *D. muricata*. In his description Kränzlin (l.c.) says: "ovarium setosum, capsula breviter tamen, densissime echinata." However, a note on a record of the Endres collection from the Reichenbachian Herbarium which must be regarded as the type says:

"Ovary glabrous." Since a major cleavage in Dichaea is commonly made on the condition of the ovary, it results that *D. vaginata* is removed from the category of *D. muricata.* In addition, Kränzlin states in his description of the lip of *D. vaginata*: "lobulos . . . divergentes non retrorsos"; whereas he draws these lobes as strongly retrorse in his floral analysis (l.c. p. 43, fig. 4 D, a-c) and, moreover, they are pictured as retrorse in the record of the Endres collection.

Other species which appear to be closely allied to *D. muricata* and which may be found to be variants of one polymorphic species are *Dichaea Acostaei* Schltr., *D. costaricensis* Schltr., *D. neglecta* Schltr. and *D. oxyglossa* Schltr.

Dichaea muricata is apparently a widely distributed and variable plant (both vegetatively and florally) and extends from the West Indies and Guatemala to Brazil.

Dichaea Powellii *Schlechter* in Fedde Repert. Beihefte 17 (1922) 90.

Dichaea Brenesii Schlechter in Fedde Repert. Beihefte 19 (1923) 264.

The description of *Dichaea Brenesii*, supplemented by a habit drawing and floral analyses of that species made at Berlin, shows that it should be regarded as a synonym of *D. Powellii.*

For separation from *D. Powellii*, Schlechter relied on the longer leaves of *D. Brenesii* and its supposedly dissimilar lip. However, in a specimen of the type number of *D. Powellii* in the Ames Herbarium, the narrowly linear leaves are up to about 8.5 cm. long and 5 mm. wide (well within the range of size of the leaves in *D. Brenesii*) and the lip approaches that species very closely. Indeed the floral parts assigned to *D. Brenesii*, even with their measurements, appear to be a close approximation to those of *D. Powellii.* Rather than the term "oblong", however, as used in the description of the sepals and petals of both species, the term "ovate-lanceolate" would be more applicable to the acute sepals, and "elliptic-ovate" a preferable term for the petals. Moreover, the lateral angles of the lip are short and obtuse rather than "acuminate" as credited to *D. Powellii.*

The only appreciable differences between the two concepts seem to be that the ligule on the column of *D. Brenesii* is described and drawn as linear and the flowers are noted as yellowish, whereas in *D. Powellii* the ligule appears to be rather short and triangular while the sepals and petals are noted as yellow-greenish and the lip a deep blue.

HONDURAS: Department of Cortes, Santa Cruz de Yojoa. Epiphyte in dense tropical forest. At 2000 feet altitude. Sepals and petals old ivory, lip white with purple spots. Column white. November 7, 1933. *J.B. Edwards 584.* (The leaves in this collection are up to 13.6 cm. long and 7 mm. wide); Epiphyte in open mountain forest. At 2000 feet altitude. Sepals, petals and column light green. Lip dark blue mottled with white. August 26, 1933. *Edwards 516.*

COSTA RICA: San Pedro de San Ramón. "arbres des pâturages. Alt. 1075 m. XI. 1921. Fleurs jaune". *A.M. Brenes 66*: San Pedro de San Ramón. "arbres des pâturages. Alt. 1050 m. 12-VII-1925. Fleurs jaune verdâtres (avec le labelle tacheté de pourpre viol. pâle?)." *Brenes (141) 1343*: San Ignacio de Acosta (cult. at San José) "21-VI-1935." *Alfredo Brade 283.*

PANAMA: On hills near Bohio (in vicinity of Panama City). Sea level. Sepals and petals yellow-greenish, lip deep blue. *C. W. Powell 23.*

Reprinted November 1968